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# JOURNAL

OF

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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UNIVERSITY OF MINNESOTA

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*Thomas Francis Pacey*  
*Frank Darling*

FRANK DARLING (Toronto),  
Fellow of the Royal Institute of British Architects  
ROYAL GOLD MEDALLIST 1915.

# JOURNAL

OF

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

### Eighty-first Session—1914-15.

ADDRESS BY THE PRESIDENT, MR. ERNEST NEWTON, A.R.A.,  
at the Opening General Meeting, Monday, 2nd November 1914.

LADIES AND GENTLEMEN,—The President is supposed to employ himself during the recess in preparing an Address for the opening night. Unfortunately, or may I say fortunately for you, my time has been occupied in other ways, and you will be relieved to know that I am not going to inflict an Address upon you. I felt—and I am sure you will agree with me—that this was not a time for dinners, addresses, and the usual accompaniments of the opening night of the Session. Our thoughts are elsewhere, and although I think we ought, as far as possible, to carry on the necessary business of the Institute, I feel that social functions would be out of place. I shall therefore content myself with a very simple statement of what we have done, are doing, and propose to do, during the Session which technically opens to-night.

On the outbreak of the war, the Institute formed, with the co-operation of other architectural bodies, a War Committee. The machinery, being new, has creaked a little, but I think I may say that it is now running smoothly and doing useful work. Subscriptions were also invited for the Prince of Wales's Fund, and for relieving distress amongst architects caused by the War. The Institute gave a donation of 100 guineas in August to the Prince of Wales's Fund, £249 11s. has now been collected, and £210 has been forwarded to the Treasurer of the Fund as a first donation. We have been able to hand over £591 19s. 6d. for the relief of distress consequent on the War to the Architects' Benevolent Society, which proposes to open a special account for this purpose. The Professional Employment Committee, believing that it is better, if possible, to provide employment than to relieve by means of doles, is arranging a programme of work which might usefully employ men whose ordinary practice has come to a standstill. £162 8s. has been received specially earmarked for this purpose, and the Committee hope to receive further financial support not only from architects, but from the public generally.

The Selection Committee is concerning itself in tabulating useful information with respect to special services that may be required by the Government, and in organising assistance to carry on the work of architects who have joined the Forces. They have already done most useful and valuable work.

The Architectural Association has concerned itself more with the Military part of the War Committee's programme. Many of its members, following the high example of self-sacrifice and devotion to his country of Mr. Maurice Webb, the President, have enlisted in the New Army. Not content with this, they have formed an Architects' Volunteer Training Corps. This Corps has been able to assist the Government and Regular Forces by acting as a recruiting agency to enlist and classify men volunteering for Military Service, and in many other ways. The scheme has met with the approval of distinguished

military officers and has, I understand, been recommended by them to Lord Kitchener as the model to which all the unofficial Training Corps throughout the country should conform.

It is obvious that this important work cannot be done without expense, and there is at present no particular fund on which the Corps can draw. The Council of the Institute has made a grant of £50, but further contributions are required.

Under the Presidency of Mrs. Maurice Webb, a committee has been formed to keep in touch with, and look after, the welfare of the Architectural Association recruits and those whom they have left behind, and I hope, although I know you are receiving appeals every day, that this particular appeal will touch you very nearly, and that all who can respond to it will do so generously. Some copies of the circular have been distributed to the meeting.

I am afraid that, so far, I have done nothing but call your attention to the various funds which invite donations, but you will nevertheless allow me to say that none of the subscription lists are closed, and that contributions to all of them will be welcome.

Architects have responded well to the call for soldiers, and so far as I have been able to get information, there are probably not far short of 1,000 serving with the Colours.

Ladies and Gentlemen, I feel that we have reason to be proud of our young brethren who have been ready without a moment's hesitation to give up comfortable homes and good prospects to serve their country at a time of need.

In regard to internal affairs, I have thought it right—and here again I am sure of your approval—to drop for the moment all controversial matters, and therefore no further steps have been taken in connection with the New Charter.

I hope that when the time comes for going forward with the work, this period of trial and anxiety through which we are passing may draw the sting of controversy, and that we may concentrate on our many points of agreement, rather than on those few on which we differ. Let us bear in mind, too, that Fellows, Associates, Licentiates, and men outside the Institute or any other body, are now serving their country under the one title of *registered*, or rather, enlisted soldiers; any further distinction will be earned by their own ability and bravery.

It has been decided to hold the Examinations as usual, but the Council have resolved to postpone the Prizes and Studentships Competitions for 1915 until the year 1916, and that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the Competitions for the year 1916.

I find that my short address has already grown much longer than I meant it to be, but I feel that I cannot conclude without reference to the terrible havoc wrought by Germany in her mission to spread "culture" throughout Europe. On the destruction of Louvain we, in common with the Royal Academy, the Society of Antiquaries, and other bodies, sent a protest to the American Ambassador, which was duly forwarded to Washington. Since then we have felt that all further protests would be useless. The spread of "culture" continues, Rheims has suffered irreparable damage, and day by day adds to the list. We can only offer our heartfelt sympathies to our allies. Belgium has lost priceless treasures, but she has preserved the most priceless of all, her honour. I have said that we can only offer our sympathies; but we can do something more. Many French and Belgian families have come to England. Let us seek them out and do all that we can not only to see that their material needs are provided for, but to make them feel that they are welcome.

I now propose to put the following resolution to the meeting, which I hope will be carried with acclamation:

"That messages be transmitted to the Governments of France and Belgium expressing, on behalf of the Royal Institute of British Architects, their profound sympathy with the peoples of those countries in the terrible losses which they have suffered by the destruction of so many of their most famous and beautiful buildings and monuments."



Mr. REGINALD BLOMFIELD, R.A., *Past President*: I would like to second that resolution. I will not make a speech, because, as our President has rightly said, this is not an occasion for speeches. He has given us an admirable résumé of the present serious condition of affairs, and what the Institute and the Association are doing to meet it. But this matter of sympathy with our Belgian friends in the terrible losses they have suffered is a different question. We are not speaking now of their terrible losses in men—their husbands, brothers, and sons—but of those beautiful buildings that we architects, of all people in the world, know most how to value. But it is not a matter we can talk upon at all; we feel too strongly upon it. I will therefore, Sir, simply second this resolution.

The resolution was then put and carried unanimously.

## REVIEWS.

### ARCHITECTURE OF HUMANISM.

*The Architecture of Humanism: A Study in the History of Taste.* By Geoffrey Scott. 80. Lond. 1914. 7s. 6d. net. [Constable & Co., Ltd.]

It is always gratifying to meet with a work on the philosophy of architecture from the pen of one who himself is practising the art, and we regret that so few architects are willing to undertake this most useful labour. No amateur, however instructed, can speak with equal authority, or discuss the theory of the art so impressively. For this reason, as well as for its high merit, we welcome Mr. Scott's book; and, though we may not be able always to agree with him, we recognise and appreciate his serious purpose, his philosophic temper, the stimulating freshness of his thought. The volume, though not a large one, covers an immense field, every chapter opens up a crowd of questions which it would be a pleasure to discuss fully with the author. All that we can attempt here, however, is to touch briefly on a few of the simpler and more elementary of these questions, and to recommend all who are interested in the subject to pursue it, under Mr. Scott's guidance, in his suggestive pages.

It seems capacious to quarrel about a title, yet "The Architecture of Humanism" is open to objection. Custom restricts the terms "humanist", "humanism", to a single brief period, the earliest and perhaps the most inspiring and luminous phase of the Renaissance, to that brilliant moment of history when the New Learning and the New Art first took possession of the stage. The New Learning was *Humanism*, as opposed to the *Scholasticism* which, up to that time, had engrossed the intellect of Europe; a literature of human life, human interests, in contrast with a literature of theology and moral philosophy. The name is distinctive of an epoch of change and conflict, it loses its significance in later times, when the conflict had been decided. So that to apply the epithet of humanist indiscriminately to all Renaissance architecture "from the revival of classic forms at the hands of Brunelleschi, in the fifteenth century, to the rise

of the Gothic movement",—as Mr. Scott does,—is a little disconcerting. We seem to lose the sense of achieved distinctions, to be mixing up things which, in temperament, really differ profoundly. There is no period of architecture in which it is more necessary to distinguish between schools, between times and places, than the Renaissance period; moved as it was this way and that by fluctuating currents of opinion,—literary, philosophic, artistic,—dependent as it was on these currents of opinion, and not on a popular impulse. Mr. Scott points out, quite truly, that the Gothic revival was due to influences mainly literary; the same thing may be said, with equal truth, of other revivals, and surely, with equal truth, of the Renaissance in all its phases. And with good reason! for the impulse which leads people to resuscitate by-gone modes is an intellectual, not an aesthetic, impulse; its origin is in the cultivated literary taste, not in a movement of the popular mind. In some passages Mr. Scott seems to imply, perhaps inadvertently, that it was the Gothic revival which broke the Renaissance tradition, in others he sanctions the received opinion that this tradition,—with so many others!—was broken up by the French Revolution. The tradition was broken, perhaps beyond repair, but the habit of mind on which it reposed was not broken, it persisted. The Gothic revival, the other revivals, may be traced to just the same *kind* of intellectual influence as the Renaissance itself;—a literary taste, or preference, for some old-time mode of civilization, and a desire for architectural forms sympathetic with it. Not the least hopeful sign at the present day is the serious effort to free architecture from this servitude, to direct its appeal less to the special tastes of the scholar and the antiquary, more to the popular imagination.

But in later chapters,—chapters novel and profoundly suggestive,—Mr. Scott takes "Humanism" in a very different sense, in a sense not historical but psychological, and this is by far the most valuable part of the work. In the chapter "Humanist Values", speaking of the Greeks, he says "their thought was anthropocentric, so also was their architecture", and his whole theory is an expansion

of that text. He conceives of architecture as a humanised pattern of the world, of the architect as constructing, "within the world as it is, a pattern of the world as he would have it". And this pattern is partly a subjective reflection of human physical conditions, an "echo to the body's music,—its force and movement and repose—"; partly an objective reflection of mental conditions, of that order which "is the pattern of the human mind". The humanism of architecture in fact is "the tendency to project the image of our functions into concrete forms", and Mr. Scott regards that as "the basis. . . of creative design". As we understand it, this imaginative synthesis is sub-conscious, intuitive; the condition assumed is a mental state, a mood, not dependent on will, nor easily responsive to conscious effort,— "architecture is unconsciously invested by us with human movement". Yet this mental activity of which we are not directly conscious, this mood which does not respond to our will, this *personality*, is the one indispensable thing for the artist, the condition of all creative work. "The naive, the anthropomorphic, way which humanises the world and interprets it by analogy with our bodies. . . is still the æsthetic way. . . it is the foundation of architecture". And so, in this new sense, the title of the book justifies itself. Humanism, not now the mark of a definite historical school, or style, not now bearing the accent of a literary movement, becomes really a criterion of all architecture. "Architecture, to communicate the vital values of the spirit, must appear organic like the body".

But we are ashamed of the injustice of fragmentary quotation. The chapters in which this theory is developed, in language of singular felicity, deserve to be studied closely as a whole. If Mr. Scott will pardon the remark we think that he hardly realises how important, how comprehensive, the theory really is. We wish that he could have devoted a much larger part of the work to a fuller examination, a more thorough analysis, of it, even at the sacrifice of some other less valuable parts.

In truth the book would have been better without its polemic, an echo of far-off and half-forgotten controversies,—those dusty heated controversies of the nineteenth century which some of us can remember, with their uncritical "classic" and "gothic" standards. The old rhetoric is faded now, the old arguments are out-worn and unconvincing. And yet among much that has lost interest, even meaning, for the modern student, we come here and there on questions which go down to the very roots of things, questions which must be settled this way or that before we can hope for an intelligible theory of architecture. The relation between structure and æsthetics, for example, what is it really? Can there be such a thing as structure without æsthetic? It is inconceivable to me. An architect may fix his attention wholly on construction, and may exclude æsthetics from his mind entirely. But when that

construction,—say a railway bridge,—becomes manifest, as a visible and tangible object, it appeals instantly, inevitably, to the senses; pleasing or unpleasing it is an æsthetic result. Or again, can there be such a thing as an æsthetic result without construction? Obviously not, the merest decorative scheme must be constructed in some way, and the observer's instinct assumes structure whether he actually sees it or not. So far we imagine that we are in agreement with Mr. Scott; but he seems to think, if we understand him, that the less the constructional element is exhibited, or is allowed to obtrude, in architecture, the better for the æsthetic element; that the Italian Renaissance in general, the baroque in particular, derive great æsthetic advantages from a disregard of, or an indifference to, the element of construction. At this point, with regret, we part company with him. Architecture is the æsthetic of construction. The two elements, structure and æsthetic, since of necessity both must be present always in it, are to be brought into communion, into organic unity; not merely combined, but so interfused that it may seem almost a matter of indifference, in regard to any part or feature of a building, whether we are to call it a necessity of the structure or a necessity of the æsthetic. Such perfect identification is the *ideal*,—how seldom achieved!—a flawless unity, as of Rossetti's ideal Lady:—

"Whose speech Truth knows not from her thought  
Nor Love her body from her soul."

Indeed, is not all art obedient to laws similar or parallel to this? In poetry, for example, we perceive an element imposed from without, irrespective of the poet, which we will call, for the moment, the *natural* element; and we perceive another element given by the poet's own mind, which we will call, also for the moment, the *artificial* element;—to fuse these two elements into one indissoluble whole is the business of poetry.

"See where the Child of Heaven with winged feet  
Runs down the slanted sunlight of the dawn."

Here the natural and the artificial are fused by the heat and magic of Shelley's genius into one entire and perfect image, and a beam of the yet unrisen sun becomes a pathway for the Messenger of the Gods.

Architecture is a constructional art; whatever else it may be,—and it is much else,—it is that. It is a constructional art by its nature, by its origin, by its life-story. Mr. Scott calls it an art of form, well then, of structural form, not of abstract form. Is there really such a thing as abstract beauty of form? Nature supplies us not with beauty of form in the abstract, but with an infinite number of beautiful forms, each appropriate to some structure. The form of a mountain side is beautiful, we feel it to be so, yet the same form in another object,—the human face for instance,—might be repulsive. In Nature we perceive structure in beautiful forms, not abstract

beauty either of line or surface. I am unable to conceive of abstract beauty of line, every line is beautiful in its place, as appropriate to, or expressive of, structure. Mr. Scott thinks that Renaissance architecture, the baroque especially, by its comparative freedom from the pressure of structural law, was able to devote its energy to abstract beauty of form. But is that really the fact? What one feels about it is that its forms are structural forms used very often without structural reality, without, at best, the sentiment of structure. The characteristic note in it, surely, is not abstract form but actual, well-known, structural forms divorced from construction, used in fact as decoration. A façade by Borromini seems more a stage effect than architecture, the appeal is to sense only, not through sense to the imaginative reason.

We are not denying to baroque architecture a peculiar fascination, at its best there is genius in it,—energy, vivacity, an impatience of formalism, of the commonplace. A sincere critical study of the buildings in Rome which date from the pontificates of Pope Sixtus V. and Pope Paul V. would be a valuable addition to architectural literature. But it must be impartial! sympathetic of course, but not blind to defects which are really as characteristic as excellencies. The warts must not be omitted from the portrait. Is it not Arnold who tells us that the first duty of criticism is disinterestedness,—to show the object as it really is? And, in the case of the baroque, it will not be necessary for the *advocatus diaboli* to say with Ruskin, that it is base and immoral, nor, with Anderson, that it is decadent; it will be enough to say that it is *eccentric*. If I were to see a friend coming down the street with three hats on his head, one above another, I should think him eccentric, to the verge of imbecility. And when I see buildings with three pediments, of different shapes, one over another, I cannot help feeling that here is a school of architecture which has taken leave, not only of construction, but of common sense also. Common sense! well, we resent its intrusions, we all like to go our own licentious way. And yet it has its place, its uses; to restrain art from becoming whimsical, affected, perverse; in a word,—if Mr. Scott will allow it,—from becoming *baroque*.

No art can survive long without a rule or determining impulse of some sort. The architects of the Renaissance quite certainly did hold themselves free, as far as was possible, from the control of the old structural principle in architecture, but on the other hand they admitted a new law, self-imposed, addressed solely to aesthetics, the law of the Orders, the Vitruvian canon. Mr. Scott is sure that Renaissance architecture gained immensely by this change, by the substitution of a purely aesthetic code for the old preoccupation with structure. We find it difficult to share his conviction on this point. Surely a code of laws which is addressed to aesthetic *directly*, as the Vitruvian code is, must have a more cramping

influence on the imagination than structural law can have, which influences aesthetic only *indirectly*, which while it compels also impels, while it limits also defines, while it controls also suggests. In fact is not this precisely the defect which is charged most frequently against the Renaissance, that in it the imagination has too little play, too little freedom of movement? And further, what authority can an arbitrary self-imposed law claim? The great architects of the Renaissance themselves did not hesitate to take liberties with the Vitruvian rules. What is the good of a law which may be obeyed or not, which is rooted in no authoritative principle? It may be said that, though these aesthetic rules of the Renaissance possess no authority in themselves, yet they derive strong authority from taste. But taste also has no authority, no compelling force. People can be brought to agree about principles, but it is a commonplace that nothing will reconcile differences of taste. Taste, in fact, is idiosyncrasy, it is a name which covers all those inscrutable habits and dispositions, those instinctive preferences and aversions, those small prejudices quite outside reason, which go to make up personality. It is here principally that we differ, not agree; neither education, nor argument, nor scholarship, nor agreement in principles, will suffice to obliterate differences of taste. If I am told that such and such things are of the best taste, that there is strong evidence of their being so, that a great number of very distinguished people have held that they are so, I answer:—but are they *really* so, are they so to *me*, now, and under these circumstances?

Mr. Scott devotes two chapters to what he calls "The Romantic Fallacy," not, as we think, with much success. It is evident that he dislikes very keenly some of the errors and excesses of Romanticism, and that, on account of these mistakes, he is inclined to treat the Romantic element in art rather cavalierly. Indeed his definitions of Romanticism are so extraordinary that we can hardly believe that he intends them to be taken seriously. Romanticism, he says, consists in "a high development of poetical sensibility towards the remote as such." "Its most typical form is the cult of the extinct." Again, "It allows the poetic interest of distant civilization to supplant aesthetic interest of form." And again, "it is inspired by the distant and the past." No very critical eye is needed to see that all this is directed principally against the Gothic revival; as a definition of the Romantic in art it cannot be received for a moment. According to this theory Renaissance architecture must be pronounced Romantic, for without question it was a cult of the extinct, without question it was inspired by the distant and the past. And Mediæval architecture must be called un-Romantic, or perhaps "classic," for quite certainly it did not allow the poetic interest of distant civilization to supplant aesthetic interest of form. By Mr. Scott's definitions all architecture

since the fifteenth century is Romantic, and all architecture before that date—Greek, Roman, Romanesque, Byzantine, Arabian, Gothic—is not Romantic. Would such a classification satisfy him? But, in the ordinary acceptation, we take “romantic” to mean just that element in art which is the opposite of the commonplace and the prosaic, just that magic, in fact, which turns paintings, statues, buildings, into works of art; which turns verses into poetry. All new experiences are romantic to us for the time, unaccustomed scenery for instance, Swiss mountains. But art is of necessity, and by its very nature, romantic. Unromantic pictures, unromantic verses, unromantic architecture, are by no means inconceivable! but these in truth are the failures. Art is romance; if it were not that, what use should we have for it? Nature gives us beauty, Nature affords delight to the senses, art must offer us something different. And the one thing that we desire from art, really, is *life*, more life, a keener consciousness of living. From a world out-worn, a world of the commonplace, of prosaic fact, of routine, we turn to art for a new world, a world of strange experiences, of intense situations, of unconventional emotions;—in fact for a *Romantic* world. Art is of the imagination, and is addressed to the imagination—what can the imagination deal with but the romantic? With fact? yes, but with romantic fact, with fact treated romantically. The artist, in Mr. Scott’s fine phrase, constructs “within the world as it is, a pattern of the world as he would have it,” surely, a romantic world. The Greek spirit itself was romantic: is there no romance in the Attic drama, in the *Agamemnon*, in the *Medea*? For our part we cannot doubt that, to the Athenian of the fifth century B.C., the temples on the Acropolis were romantic art, a fresh and enchanting experience, a newly-created “pattern of the world as he would have it.”

It seems unpardonable to have devoted so much attention to the mistakes, as we think them, of Mr. Scott’s admirable book. We have done so partly, no doubt, because we are of a disputatious temper; but chiefly, it may be hoped, because we feel that it would be a serious loss to architectural literature if Mr. Scott were to suffer his fine critical ability to be cramped by prejudices. For no theory of architecture has the smallest chance of finding acceptance unless it can be applied, impartially, to all the various manifestations of the art.

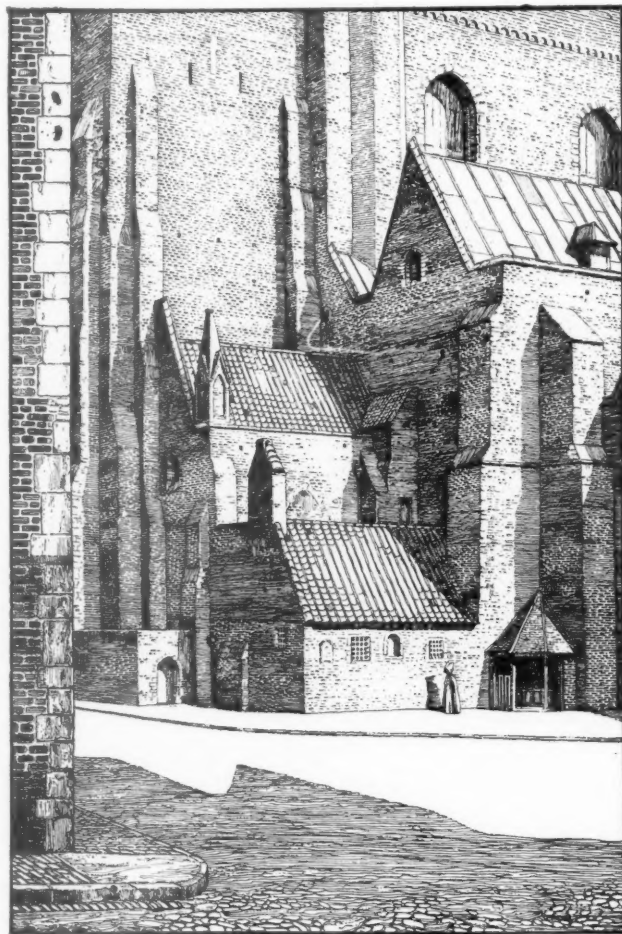
Birmingham.

J. L. BALL.

## BRUGES.

*Bruges: A Record and an Impression.* By Mary Stratton. With 120 Illustrations by Charles Wade. 80, pp. 163. 5s. net. [B. T. Batsford, Ltd., 95 High Holborn.]

Mrs. Stratton’s book on Bruges would have been welcome at any time, for it is thoroughly well written and appreciative; but its appearance now is especially opportune. For Bruges is in the thick of it,



BRUGES: OUTSIDE THE CHURCH OF ST. SAUVEUR.

and no one knows yet to what extent it has suffered or will suffer. All parts of the town are of interest. The interest centres, it is true, in and around the Grande Place, with its top-heavy belfry, the neighbouring Hôtel de Ville, remains of the Palais du Franc, and other public buildings; but there is not a street in the town, not a corner enclosed within its windmill-topped ramparts, that does not contain houses or churches

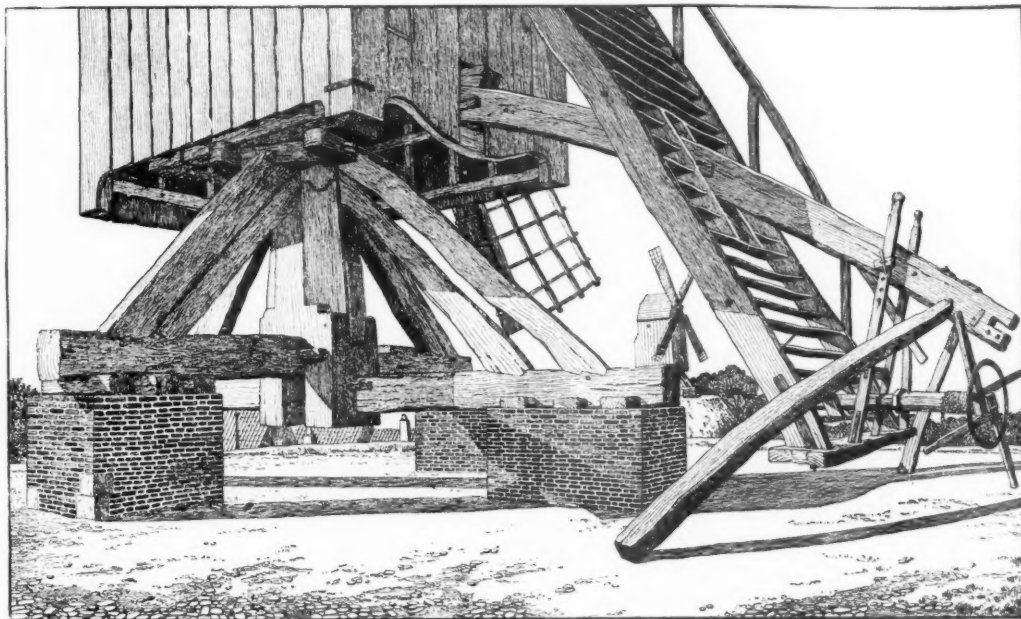


well worthy of attention. The secluded Béguinage presents a scene that for mediæval completeness and old-world charm would be difficult to beat.

The past history and greatness of Bruges, the reasons for its decline and why so much of the city remains unaltered, its present charm and fascination, are well stated by Mrs. Stratton. She emphasises its relations with this country by mentioning that William Caxton, who printed his first book at Bruges, held office there as "Governor of the English Nation." In her very slight references to Memling (or Memline) she is disappointing. The wonderful series of pictures by

with that of the Maison des Bateliers at Ghent, or even with some of the façades at Ypres and Tournai. Possibly the inhabitants of Bruges—has Mrs. Stratton coined the word Brugeans? it does not appear right—spent their money more on interiors and fittings. History records their extravagance in dress.

Immense though the fall of Bruges has been from its former high position as one of the chief towns of the great Hanseatic League, still more lamentable has become the state of Damme, three miles away, and once the flourishing port of Bruges. When I visited it in 1882, on a board over the entrance doorway to the



BRUGES : WINDMILLS OUTSIDE THE PORTE STE. CROIX.

that artist in the Hôpital S. Jean deserve more than the bare mention of their existence that they receive.

A chapter on the façades of houses, in which Mrs. Stratton had the assistance of her husband, Mr. Arthur Stratton, brings out well their peculiarities, and shows why "Bruges being, . . . a city of narrow streets and densely packed houses, . . . the city dweller had to be content with a comparatively narrow plot of ground, which . . . presented to the street a front averaging no more than some 20 to 30 feet in width." Although the same idea of vertical brick pilaster strips dividing each front into bays and framing in square-headed mullion and transomed windows, the heads of which are filled with sunk brick tracery, runs through all, there is still considerable variety in design shown. At the same time there is no one façade that can compare

principal building in the town were the words "Hôtel de Ville et Estaminet"! Damme receives full mention from Mrs. Stratton, who says that its population, once 60,000, is barely 1,000 to-day. It still boasts a large church and some houses as good as any in Bruges itself.

The illustrations deserve a special word of praise. Mr. Charles Wade has evidently come under the influence of Memling and other masters of the Flemish school, and records his impressions of Bruges and Damme with a fidelity to detail which even they might have envied. Some of the drawings, especially the smaller architectural views, are hard, and others over-elaborate, but the latter especially have probably suffered in reproduction.

F. M. SIMPSON [F.].

## PROGRESS IN PAINT MANUFACTURE.

I AM afraid that the majority of architects still look upon the subject of painting more or less in the light of a side issue, regarding the function of paint as of too little importance from a structural point of view for the question of its proper composition and use to demand serious attention.

In the brochure entitled "Notes on the Properties and Ingredients of Commercial Paints," issued by the Science Standing Committee of the Institute some three or four years ago, however, I notice that the Committee expresses the opinion that this subject is one "which, though it forms but a small part of the wide field covered by an architect's work, is of considerable importance in the light of the cost of constant repainting, coupled with the great openings for the use of inferior materials." This is a statement pregnant with practical bearing on the subject, for it cannot be too clearly or too often emphasised that in a climate such as that of Great Britain efficient painting is of vital importance to the protection and upkeep of our buildings. It forms, in fact, in most cases the only available means of protecting wood-work, metal, and even stone, from the rapid deterioration which follows exposure to the impure atmosphere of our modern towns, the effect of which has been fully explained by Sir Arthur Church and others.\* From a rule-of-thumb and home-made material paint manufacture has grown into an organised industry, developed on scientific lines, for the constantly increasing demand has stimulated the chemical engineer to evolve special machinery for its efficient manufacture on a large scale, and close competition has necessitated constant chemical supervision to ensure a reputation for good quality.

But in every industry, side by side with the beneficial effect of demand and competition we have their concomitant evils: the stimulation of the imitation and the spurious product, and the tendency to pass off adulterated products under the stress of competition. "Paint specialities" by the score have flooded the market in recent years, and one can fully sympathise with the Committee in their conclusion: "The whole subject has been found to be so complex, and any unanimity of opinion so lacking, that it appears unlikely that any precise standardisation will be attainable for some time to come."

A thorough understanding of the industry, in fact, involves no mean amount of study and research, and it would be unreasonable to suggest that the architect should accept the burden of becoming an expert in the subject. I do suggest, however, that the architect would find it well worth while to be conversant with the fundamental principles governing the production of efficient paint—and to this end perhaps some notes on the present state of scientific opinion on the subject may be of interest.

Fundamentally, paint is composed of a finely divided solid portion, or pigment, and a liquid portion, or vehicle, which has the property of changing into a tough adhesive solid on exposure to the air, thus binding the particles of pigment to the surface. This change is commonly known as "drying," but is in reality a complicated chemical reaction, the control of which forms one of the most vital problems in the production of efficient paint.

The conditions which paint is called upon to fulfil in the protection and decoration of buildings are many, and a perfect paint would excel in numerous properties, which may be summarised thus:—

1. Perfect freedom of working.
2. Great "body"; that is, power of hiding the surface.
3. Power of "drying" quickly and uniformly to form a film having the characteristics—
4. Elasticity, to enable it to follow the expansion and contraction of the surface.
5. Hardness, to protect the surface from mechanical injury.
6. Impermeability to moisture and gases, to enable it to protect the painted surface from the effect of frost, corrosive agents, and so on.
7. Chemical stability and inertness, to enable it not only to resist attack by the same agencies itself, but to remain indefinitely without suffering any internal or external chemical change.

We must, of course, take it as an axiom that no paint is ideal in the sense of possessing all these properties fully developed. The problem of paint production is to strike an effective balance between these conflicting requirements.

One of the most remarkable features of modern scientific research has been the bringing into prominence of the enormous influence that can be exerted by agencies so slight as to appear at first sight insignificant. One need only call to mind as an illustration the far-reaching influence of radium, which exists in such minute quantities that the world's present supply could be held in one hand. This applies as much to the paint industry as to other branches of applied chemistry. Research has shown, for example, that the "drying" of the oil and the durability of the resultant film of paint are influenced to a remarkable degree by the presence of certain metallic salts in extremely minute quantity.

Such subtle reactions may be applied to improving the qualities and eliminating the known weaknesses of those materials which have been proved by long experience to be the most efficient, and true progress has lain rather in this direction than in the more obvious one of endeavouring to replace them by new materials possessing theoretical advantages which in general prove in practice to introduce at the same time new and unforeseen defects. Both methods have, however, been practised, and there has thus arisen in the industry two schools of thought—those who follow the principle of applying scientific research to solving the problem of increasing the efficiency of paint by

\* See, for example, *The Conservation of Urban Stonework and Wall Paintings*, Royal Institution, 1907.

improving the manufacture of existing materials, and those who attempt to cut the Gordian knot by abandoning well-known materials in favour of others possessing theoretical advantages. I must frankly confess myself a believer in the former method, for the reason that one has a sound basis of accumulated experience to direct the most profitable line of inquiry, for the problem is complicated by so many factors in actual use—the influence of varying conditions of exposure, environment, &c.—that it is only by years of practical experience that the qualities and defects of any material become fully understood.

The danger of introducing new materials and rejecting old ones lies, therefore, in the fact that, whilst the new material may show some specific advantage under favourable circumstances, this may be far outweighed by defects which manifest themselves under different circumstances. An instance that immediately occurs to one in this connection is the question of abandoning the use of white lead in favour of other pigments, on account of certain technical and economic disadvantages. This pigment is one of the most valuable ingredients the paint manufacturer has at his command. It has been in use for so long, and the experience of its use is so great, that its merits and defects are well known from every point of view.

One technical problem presented by its use illustrates very well the difficulty of making progress by the method of substitution—namely, the discolouring effect of air containing sulphuretted hydrogen, owing to the gradual formation of lead sulphide. Theoretically, the substitution of white lead by oxide of zinc would obviate this, not because sulphuretted hydrogen has no action on it, as is too often incorrectly stated, but because the sulphide of zinc formed is white, and therefore the action does not become apparent by discolouration. In practice, however, it is found that, whereas the action of such impure air is merely to discolour the surface of the lead paint without impairing its durability, when zinc is substituted this difficulty is only obviated at the sacrifice of the most valuable property of the paint—its protective value; for the paint under such conditions rapidly disintegrates in a manner that appears unaccountable until we investigate more closely the chemical reactions involved, when we discover that the action does not stop with the formation of the sulphide. Oxidation ensues, with the production of sulphate of zinc, which is freely soluble in water; the paint, in consequence, becomes useless as a protection against moisture, which causes it to disintegrate rapidly by dissolving away the now soluble pigment. In the case of white lead a similar cycle of reaction takes place, with the essential difference, however, that the lead sulphate so formed is quite insoluble and only inferior to the original white in durability, so that the ultimate effect is, for all practical purposes, to restore the original condition of affairs.

It is quite conceivable, moreover, that research on the lines of improvement rather than substitution may obviate this disadvantage of discolouration in the case of white lead. It is suggestive to note in this

connection that white lead was freely used in mediæval times for tempera painting, for which purpose it was mixed with a medium consisting largely of yolk of egg.

Thus we read in the XIV. Century MS. "*De arte illuminandi*" (preserved in the Naples Library): "*album colorem arte illuminandi unum tantum probavi esse bonum, videlicet album plumbi sive aliter cerussa,*" and concerning the medium with which this and other pigments were mixed, "*Aque vero cum quibus ponuntur colores sunt hec, videlicet ovorum gallinarum clara et vitella eorum.*"

I have myself found white lead to be present in tempera paintings that I have examined, where it has remained for centuries without any trace of discolouration. Modern tempera paintings exhibit the same phenomena. I remember Sir Charles Holroyd once showing me a painting he had executed with yolk-of-egg medium which had stood untouched for twenty years without a trace of discolouration. The point is that the yolk-of-egg readily gives off sulphuretted hydrogen, an obvious fact when one remembers that this is invariably described as "smelling like rotten eggs," and one would in theory expect the white lead to be rapidly discoloured when mixed with such a medium. There is evidently something here which has arrested the normal action. It was the observation of a similar slight discrepancy between theoretical and observed results which led Sir William Ramsay to discover the element argon, which exists in the air in minute traces. And in like manner investigation of the cause of this curious discrepancy may quite reasonably be expected to result in the discovery that the addition of a mere trace of some substance would render white lead immune from discolouration, thus obviating a defect without sacrificing any of the qualities which render this pigment so indispensable to the painter.

The hygienic disadvantages of white lead, which have been strongly urged in recent times to warrant its abolition, are similarly capable of being overcome. At the present time, in fact, the risk of injury to the health of those engaged in its manufacture has been reduced to almost negligible dimensions by research into the exact cause and operation of the trouble, and there seems no reason why the risk should not be obviated without resort to the desperate expedient of abandoning the use of this material in favour of materials which possess many practical disadvantages.\*

Many other materials might be referred to which illustrate in a similar manner the problems confronting the paint manufacturer. The instances I have quoted are, however, sufficient to indicate the possibilities of further progress and to emphasize the danger of attempting to replace well-tried materials of proved merit by new and little-understood products, which often fail with disastrous results under unforeseen contingencies.

NOEL HEATON.

\* I have dealt with this point fully in a Paper read before the Royal Society of Arts, and reported in the *Journal* for 12 March, 1913.



9 CONDUIT STREET, LONDON, W., 7th November 1914

## CHRONICLE.

### The R.I.B.A. Record of Honour: Third List.

The following is the Third List of names of Fellows, Associates, Licentiates, and Students R.I.B.A. who have responded to the call of duty and are serving with H.M. Forces for the duration of the war. Previous lists will be found in the September and October issues:—

#### FELLOWS.

Cappon, T. M.: Recruiting Officer, Black Watch (Terr.).  
 Goddard, H. L.: Major, 4th Battalion Leicestershire Regiment (Terr.).  
 Hardcastle, Wilfred J.: Lieut.-Col., V.D., Staff 10th Division New Army.  
 Spain, Joseph: Captain, 7th Durham Light Infantry.  
 Wilkie, W. F.: Lieutenant, 4th V.B. R.H.  
 Wilson, Cecil: Lieut.-Col., 7th Welsh (Cyclist) (Terr.).

#### ASSOCIATES.

Baines, J. C.: Captain, 4th Battalion Leicestershire Regiment (Terr.).  
 Bedingfield, R. W.: Captain, 4th Battalion Leicestershire Regiment (Terr.).  
 Bevis, R. H. P.: Captain, Royal Engineers.  
 Brown, John: Captain, Northants Territorials.  
 Clouting, C. E.  
 Cowper, J. B. F.  
 Davis, Claude: Lieut., 2nd Birmingham Battalion Royal Warwicks.  
 Hake, G. D. Gordon: King Edward's Horse.  
 Hands, J. G.  
 Hebblethwaite, B. R.: 2nd London Sanitary Div., R.A.M.C.  
 Hendry, H. D.  
 Hunter, G. E.: Captain, Northumberland Fusiliers.  
 Jardine, H. S.  
 Jones, G. Howard: Public Schools Battalion, Royal Fusiliers.  
 Keys, P. H.  
 Nimmo, W. W.  
 Pearson, H. John: United Arts Force.  
 Pickmore, Travers: Universities and Public Schools Corps.  
 Roche, C. S.  
 Rogers, Cecil W.: Artists'.  
 Rushworth, T. S.: Lieutenant, 7th City of London Battalion.  
 Scott, J. Maxwell.  
 Sinclair, W. B.  
 Tasker, A. K.: Captain, Tyne Electrical Engineers.  
 Tasker, W. W.: Lieut., Northumbrian Royal Engineers.  
 Thompson, W. Harding: Honourable Artillery Company.  
 Truelove, J. Reginald: Lieutenant, Queen's, 24th County of London.  
 Walter, R. A.: 12th Battalion Middlesex Regiment (Duke of Cambridge's Own).

Wilson, A. Needham: Captain, Territorials.  
 Wilson, Geoffrey C.: Royal Garrison Artillery.  
 Worthington, J. Hubert: Lieut., 31st City Battalion Manchester Regiment.

#### LICENTIATES.

Barnett, R. R.: Royal East Kent Yeomanry.  
 Broadley, William A.: 1st Battalion Surrey (Croydon) National Reserve.  
 Danby, Harold H.: Royal Engineers.  
 Flower, Victor: Captain, 13th Battalion London Regiment.  
 Johnston, J. W.: Royal Engineers.  
 Meikle, J. A.: Universities and Public Schools Brigade (Royal Fusiliers).  
 Nicholls, F.: Inns of Court, O.T.C.  
 Royds, A. F.  
 Saunders, J. T.: London Scottish.  
 Skipwith, F. P.: Captain, 7th Battalion Royal Scots Fusiliers.  
 Walker, Wm.: Lieut., Highland Cyclist Battalion (Terr.).

#### STUDENTS.

Barber, R. Alfred: Royal Naval Division (Engineers).  
 Beaverstock, H.  
 Brown, J. Boyce: Lieut., 6th Battalion Hampshire Regiment (Terr.).  
 Carey, J.  
 Chaundler, J. H.: Chief Petty Officer, R.N.V.R. Anti-Aircraft Corps.  
 Clarke, W. L.: Artists' Rifles.  
 Cooksey, H. T.  
 Cruickshank, D. E.: 1st Battalion U.P.S., Royal Fusiliers.  
 Donaldson, B.: Northumberland Hussars, Imperial Yeomanry.  
 Durnford, W. J.: 1st City of London Sanitary Co., R.A.M.C. (Terr.).  
 Elsworth, L. A.: Honourable Artillery Company.  
 Fincham, E.  
 Freaker, Allan L.: Artists'.  
 Gostling, W. B.  
 Hinton, C. A.: Lieut., 5th King's Own Royal Lancasters.  
 Hunt, Norman S.: Universities and Public Schools Corps.  
 Kaltenbach, A. F.  
 Kruckenberg, F. L.: 1st West Riding Field Ambulance, R.A.M.C. (Terr.).  
 Lyne, D. R.: R.N.V.R. Anti-Aircraft Corps.  
 Mackellar, R. N. H.: 9th Highland Light Infantry.  
 Maddock, R. H.: Artists'.  
 Moscrop, W. N. J.: Lieut., 5th Battalion, Durham Light Infantry.  
 Nightingale, F. B.: United Arts Force.  
 Parkin, W. G.  
 Pite, Ian Beresford: Lieutenant, Royal Engineers.  
 Ratcliff, Fred: Sheffield Battalion York and Lancaster Regiment.  
 Saunders, Bernard: 6th Battalion Royal Warwicks (Terr.).  
 Spence, A. T.  
 Symington, H. H.: 4th Battalion Leicestershire Regiment (Terr.).  
 Toothill, J. C. P.: Artists' Rifles.  
 Turner, T. E.: Lieut., City of London (Kensington).  
 Venn, G. O.: Royal Fusiliers, Public Schools Battalion.  
 White, T. F. H.: Inns of Court O.T.C.  
 Whitehouse, L.: 2nd City Battalion King's Liverpool Regiment.

Members will be glad to learn that Mr. Francis Hooper [F.] has received news of his son, Lieut. Kenneth Hooper, of the East Lancashire Regiment, who was reported wounded at Cambrai and later as missing. Lieut. Hooper has now written home that he was for twelve days in the temporary hospital at Ligny, near Cambrai, that he has recovered from his wounds and is a prisoner of war at Torgau-on-Elbe.



### War and the Professional Classes: Formation of a Relief Council.

Directly the war broke out the distress expected to arise therefrom among the industrial population was at once anticipated and taken in hand to be dealt with adequately by the National Relief Fund. The response to the Prince of Wales' appeal was immediate and generous, with the result that there is little fear of irremediable upheaval of conditions among the industrial classes.

This Fund, however, as everyone knows, makes grants only to the Local Distress Committees and the Soldiers' and Sailors' Families' Association. It does not, therefore, touch in any way the great distress already prevalent among the professional classes, for men and women of this class cannot appeal for help to the Local Distress Committees, who possess no adequate machinery for dealing with such cases.

Yet this class is the one hit most promptly and severely by the dislocation of business, and by the sudden, unexpected cessation of the demand for luxuries. In fact, not only are all the professions which depend upon the conditions of peace and the fluency of the market practically at a standstill, but also the creative and artistic professions, such as literature, journalism, the stage, art, &c. All these rely upon the conditions of peace or the demand for luxuries, and that demand is gone. However long the war may last, it is certain that the dislocation in the professions will continue for some years after peace has been made.

Many small but hitherto prosperous homes will be broken up through the mainstays being thrown out of work, or through the men, moved by the needs of their country, having enlisted as ordinary privates, receiving, of course, as such the ordinary pay of a private; this is naturally insufficient to keep the home together on anything like the standard of living that has hitherto been attained. In many cases also financial difficulties may arise because securities cannot be realised or loans negotiated. It is obvious, then, since there is no control organisation or general fund to meet the distress already so prevalent, that the need for such a fund is very great.

During the last few weeks, therefore, there has been in process of formation an organisation to be called "The Professional Classes War Relief Council." This Council is composed of the nominees of the majority of the principal professional institutions, such as the Architects', Surveyors', Engineers', Musicians', Authors', &c., as well as representatives of the chief societies engaged in relief work (in order to promote valuable co-operation), with the result that it is a very representative and powerful body of business men and women.

The Council does not propose to offer any form of charity in relief, as this would naturally be both impossible and undesirable, but it does propose to give certain centralised forms of assistance, which will, it is hoped, tide over the critical period of the

war, enabling people so severely hit to resume their normal status when the war is over.

The majority of the professional societies have their own benevolent funds; these are and must remain quite independent, but it will ensure the most adequate return for outlay being obtained if certain forms of assistance are centralised and made available for their use.

The chief forms of assistance arranged are in matters of Education, Training, Emigration, Maternity Aid, and Temporary Employment, all of which are worked under separate representative sub-committees of men and women whose positions and capabilities fit them especially for dealing with their special departments.

For example, the Education Committee is composed of the Presidents of the principal scholastic associations, and has as its objective the arrangement of co-operation with the proprietors and governing bodies of schools by which children whose parents, through financial stress, are unable to pay the usual school fees will be maintained at school at reduced fees assisted by a grant from the funds of the Council; thereby ensuring both the continuity of the schools, many of which would otherwise have to close down owing to the withdrawal of pupils, and also the uninterrupted education of the children, which is so vitally important to the national life.

The Training and Emigration Committee proposes chiefly to arrange free training for those professions for which it has been ascertained that openings exist either at home or in the Overseas Dominions. This will apply mainly to men and women in already overstocked professions.

Numbers of domestic and emigration colleges have offered free or greatly reduced trainings to the Council, and these scholarships are immediately available.

The Maternity Assistance Committee proposes to open a maternity nursing home for wives of professional men, staffed by voluntary doctors and midwives. A suitable building has already been generously lent for the purpose. It is also proposed to give free maternity assistance in their own homes, so long as those homes can be kept together. This Committee and staff comprise some of the most eminent men and women in the medical world.

The Temporary Employment Committee has been organised to develop opportunities for temporary employment in works of public and national utility both for men and for women.

It has also been found necessary to meet the demand for immediate relief while people are waiting to be placed in permanent work. The Women's Emergency Corps and the National Union of Women's Suffrage Societies have opened certain temporary workrooms for needlework, toy-making, &c., for professional women, which they have arranged to make available to nominees of the Council.

It will be seen how far-reaching and important the work of this Council is, for it affects not only the

conditions immediately confronting us while the war lasts, but may develop on such lines as would be of permanent value in forming a centre for all information relative to the conditions and opportunities of employment in the various professions.

It is necessary to form a central fund to carry on this great work, this fund being used to organise and maintain the various forms of assistance proposed; to help those members of professions which are not organised and have, therefore, no benevolent funds; to provide assistance for the families of professional men who have given up all to enlist for the service of their country.

All those who have this very real need at heart are earnestly invited to give practical support by sending donations to The Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W. Cheques to be crossed Messrs. Coutts & Co.

The objects of the Relief Council appeal in a very special manner to architects, and deserve their most generous support. Architects and surveyors are influentially represented on the Council, among them being Mr. Ernest Newton, A.R.A., President R.I.B.A., Mr. George Hubbard, Vice-President R.I.B.A., Mr. Paul Waterhouse [F.], Mr. Ian MacAlister, Secretary R.I.B.A., Mr. H. M. Fletcher [F.], Hon. Secretary A.A., Mr. Percy B. Tubbs [F.], late President of the Society of Architects, and Mr. A. Goddard, Secretary of the Surveyors' Institution.

#### Work in England for Belgian Refugee Craftsmen.

The Belgians are an industrious people, and to keep in enforced idleness those who have sought asylum amongst us would not be dealing kindly with them. The problem is how to pay our debt to Belgium without prejudice to the interests of our own workpeople. A movement which promises good practical results has been set on foot by the Hampshire House Refugee Housing and Workshops Committee, Hammersmith. A wood workshop for men has been started by the Committee under M. Goossens, of Liège, a cabinet-maker of great skill. It is intended to employ both British and Belgian workmen with apprentices, to follow and learn their trade under the best auspices. All the workmen will be paid at the customary trade union rates, any Belgians who are housed, fed, and clothed through the Committee being paid at a proportionate rate. Thrifty Belgians will thus be able, when the time comes, to go home with a small fund of savings for their repatriation. The Committee's aim is to create a store of well-made furniture for the new homes of a restored Belgium. Mr. Charles Spooner [F.] is acting as Honorary Director of the workshop. The Committee has also started workshops for other trades on similar lines, and is trusting to establish in Hammersmith such a centre of skilled handicrafts for both men and women as will not only have helped Belgium in her need, but will be of permanent benefit to the industrial life of our own country. Funds, of course, are needed, and the

Committee earnestly appeals for subscriptions, which should be sent to the Treasurer, Mr. Fred Rowntree, 11 Hammersmith Terrace, W. Particulars of the workshops may be obtained from the Secretary, Mr. Walter Seward, 9 Upper Mall, Hammersmith.

#### The A.A. War Service : Gifts in Kind wanted.

A committee has been formed by Mrs. Maurice E. Webb, in connection with the Architectural Association War Service Bureau, for the purpose of providing necessities and extra comforts for the very considerable number of men connected with the architectural and surveying professions and building trades who are serving with the Colours. The Committee now appeals for assistance in its endeavours to make as comfortable as possible the lot of those who have so splendidly responded to their country's call. Owing to the generous assistance already afforded, many parcels have been dispatched both to men actually at the front and to those in training camps and barracks, and the very kind and appreciative letters which have been received from the men confirm the Committee's opinion that the work it has undertaken is meeting a real need. The Committee especially appeals to the wives and daughters of architects and surveyors and other ladies connected with the building trades for gifts both in kind and money, in order to enable it to meet the heavy and increasing demand which is being made upon its resources. As a result of careful inquiry it has been ascertained that the articles contained in the following list are most needed: blankets, body belts, scarves, sleeping helmets, flannel shirts, socks, towels, soap, tobacco, cigarettes, games, papers, magazines. All contributions, which will be gratefully received, should be sent to Mrs. Maurice E. Webb at the Architectural Association, 18 Tufton Street, Westminster. A list of contributors will be published in the *Architectural Association Journal* from time to time.

#### Sinking of the "Clan Grant" : Loss of the Cities and Town Planning Exhibition.

The valuable collection of maps, plans, models, etc., which made up the Cities and Town Planning Exhibition of the officials of the Outlook Tower, Edinburgh, has been lost with the steamer *Clan Grant*, which was sunk in Indian waters by the German cruiser *Emden*. By special invitation of the Governments of Bombay, Madras, and Bengal the Exhibition was invited some time ago to the capitals of these Presidencies. It was placed on board the *Clan Grant* at Liverpool about the middle of September and was proceeding to Madras. Fortunately, Professor Geddes and Mr. Alistair Geddes travelled by another boat, and have now landed safely. In connection with the Exhibition Professor Geddes was to have lectured and advised in India on various aspects of town planning and the reconstruction of Indian cities. A conservative estimate of the loss places it at two or three thousand pounds, but that does not include the labour which has been applied to it by enthusiastic workers for many years. A good

part of the collection was on view at the Exhibition of the R.I.B.A. Town Planning Conference in 1910.

Mr. H. V. Lanchester [*F.*] writes: "As the loss of this unique collection handicaps Professor Geddes most seriously in the important work he has undertaken, an effort is being made by those who appreciate the valuable contributions he has made to the problems of civic development to replace the salient features, and to forward, as soon as possible, a collection on a smaller scale, but representative in type of that now lying at the bottom of the Indian Ocean.

"Through the generosity of the Architects' Professional Employment Committee a staff is now engaged on preparing maps and diagrams; but the only means by which it appears possible to provide for the historic section, comprising maps, prints, and views of cities in past ages, is by a request to all possessing these to lend or give them to the collection.

"I therefore, on behalf of the Exhibition Emergency Committee, venture to appeal to your readers to co-operate by sending to me at 47 Bedford Square, W.C., whatever they may be willing to spare that falls within the following category: Plans, views, or lantern-slides illustrating—

- "1. Ancient and modern cities.
  - "2. Historical buildings.
  - "3. Restorations of cities or important buildings.
  - "4. Geological, physical, botanical, and ethnographical maps, charts, diagrams, and pictures.
- "Large panoramic views would be especially suitable."

#### The A.A. Collection of Lantern Slides.

By direction of the Council some 900 lantern slides, representing many years' accumulations of illustrations of Papers read before the Institute, have been handed over as a loan to the Architectural Association. Previously the A.A. collection numbered upwards of 6,000 slides, all catalogued and classified, and available to its members and other people for hire at a small charge. The recent additions bring the number up to 7,000, and the A.A. has agreed that the whole collection shall be available for loan to members of the R.I.B.A., without charge, on application to the Council. For the future the Institute slides will be kept at Conduit Street for a year after use and then be added to the A.A. collection.

#### Destruction of Ancient Monuments: Sympathy with France and Belgium.

The following resolution, signed by Mr. Lionel Earle, Sir John Stirling Maxwell, and Sir E. Vincent Evans, Chairmen of the Ancient Monuments Boards of England, Scotland, and Wales respectively, has been sent to the French Ambassador and the Belgian Minister for transmission to their Governments:—

"The Ancient Monuments Boards of England, Scotland, and Wales desire to record the horror and indignation with which they have received the news of the wanton destruction by the common enemy of the famous and beautiful monuments of your country,

monuments which were justly the pride not only of their native land, but of the whole civilised world.

"Such losses are, alas! irreparable, and must ever remain a bitter memory, the record of a chapter in the annals of mankind which will brand with indelible infamy the minds which conceived and the hands which carried out so idle an outrage against civilisation.

"But although nothing can undo these excesses of a brutal and ruthless militarism, the occasion must at least evoke a demonstration of full and complete sympathy with the people on whom they have been inflicted, a people long and deservedly famous alike for the inestimable value of their historical monuments as for their deep appreciation of that value."

#### Garden Cities and Town Planning.

The following is a programme of lectures arranged by the Town Planning Institute for the ensuing session:—

- Oct. 23. *Wide Roads for Cities.* By John A. Brodie, M.Inst.C.E.
- Nov. 13. *The Industrial Village.* By Percy T. Runtun [*A.*].
- Dec. 4. *The Ruislip-Northwood Scheme.* By E. R. Abbott and F. M. Elgood [*F.*].
- Jan. 29, 1915. *The Urban Land Problem as it affects Town Planning.* By Professor S. D. Adsead [*F.*].
- Feb. 19. *Economics of Town Planning in Relation to Land Development.* By George L. Pepler, F.S.I.
- Mar. 12. *Some of the Larger Problems of Town Planning.* By Thomas H. Mawson [*Hon. A.*].
- Apr. 16. *Replanning and Redevelopment in Existing Centres.* By W. T. Lancashire, M.Inst.C.E., and H. V. Lanchester [*F.*].

#### The R.I.B.A. War Relief Fund.

Messrs. Alex. Koch & Sons, of 44 Doughty Street, W.C., publishers of the well-known annual, *Academy Architecture*, announce the approaching publication of a Portfolio of Twenty Plates reproduced from drawings of Egyptian Temples and Mosques by Mr. W. J. Palmer Jones. The reproductions are by lithography, the original drawings being done on the stone by Mr. Jones himself and the printing carried out under his personal supervision. The originals, remarkably clever drawings, are in charcoal—a medium eminently suitable for the presentment of these fascinating old monuments; and the lithograph reproductions, judging by the specimens which have been sent to the Institute for inspection, are admirable. The work was put in hand some time before the war broke out, and the publishing price was originally fixed at three guineas. Messrs. Koch, however, announce that they are prepared to supply copies at the subscription price of two guineas, and they undertake to contribute half the sum received for each copy to the War Relief Fund now being raised by the R.I.B.A. Messrs. Koch desire it to be known that they are naturalised British subjects since 1891, of Swiss origin, and that their junior partner is a British-born subject.

#### Detroit Building Regulations.

New building regulations for the City of Detroit place the following limitations on the ratio of least

diameter to length of unbraced piers and columns: Brick or hollow tile, 1 to 10; wood, 1 to 16 and 1 to 24; cast iron, 1 to 20 and 1 to 30; steel, 1 to 44. Working loads on masonry in tons per square foot are limited as follows: Brick work in lime mortar, 7; in lime and cement mortar, 9; in lime and Portland cement mortar, 11; in Portland cement mortar, 15. For pressed brick, 20 per cent. excess of the above is allowed. For hard hollow tile with vertical cells laid in Portland cement the load is 20, and with horizontal cells, 12; for ordinary hollow tile in Portland cement mortar, 12½ for vertical cells and 7 for horizontal cells; rubble stone in lime mortar, 5; in lime and cement mortar, 6; in lime and Portland cement mortar, 7; in cement, 8; in Portland cement, 10; concrete, 8; Portland cement concrete footings, 30.

#### The Chadwick War Lectures.

The forthcoming Chadwick Lectures include three on "Camp, Ship, and Hospital Hygiene" by Dr. A. T. Nankivell at Bedford College, Regent's Park, on Saturdays, the 14th (when Mr. John Slater [F.] will preside), 21st, and 28th November, at 3 p.m. "Government and Military Sanitation in the Tropics" is the subject of two lectures to be delivered by Sir Ronald Ross at the London School of Economics, Clare Market, Kingsway, on Fridays, 4th and 11th December, at 8.15 p.m. On Fridays, 15th and 29th January, at 5.15 p.m., Dr. F. M. Sandwith will lecture on "War and Disease" at the Royal Society of Arts. Professor W. J. Simpson, M.D., will deliver a course of three lectures on "Naval Hygiene" at the Town Hall, Portsmouth, on Fridays, 27th November, 4th and 11th December, at 9 p.m. Admission is free to all lectures.

#### OBITUARY.

William Cowley Stevenson, *Licentiate*, who passed away at Seaton, South Devon, on 11th October, was the elder surviving son of the late Henry Stevenson, F.L.S., of Norwich, a local naturalist of much distinction, and the author of the *Birds of Norfolk*, a history of the local fauna of the county which, for the past fifty years, has commanded widespread attention. His great-grandfather, William Stevenson, F.S.A., was a miniature painter of some distinction, and a pupil of Sir Joshua Reynolds during his presidency of the Royal Academy. It was this Mr. Stevenson who in 1812 superintended a new edition of *The History of Ely Cathedral*, by the late Rev. James Bentham, A.M., F.S.A., Rector of Feltwell St. Nicholas, Norfolk, and Prebendary of Ely. His remains were interred in St. Stephen's Church, Norwich, beneath a mural monument, executed in statuary marble by De Carte, with a characteristic epitaph by Mr. Thomas Amyot, F.S.A. The late Mr. Stevenson was educated at Norwich Grammar School under the famous Dr. Augustus Jessopp, and

on leaving there he entered the office of Messrs. Edward Boardman & Son, of Norwich, who have carried out much ecclesiastical and other work in all parts of the country. Afterwards he became an assistant in the office of Messrs. Wylson & Long, of King William Street, Charing Cross, and whilst thus employed had a good deal to do with the construction of the Winter Gardens at Blackpool and works of a similar character with which the name of that firm has been identified for many years past. A complete breakdown in health, however, compelled him to take up his residence permanently in the country, and during the last eight or ten years he had lived at Seaton. Here he was instrumental in designing several houses on the Broadclose Estate and elsewhere in the parish, and he was also the winner of the prize design for laying out the Cliff Gardens scheme at Seaton. Mr. Stevenson made many friends in the quiet little South Devon town, and his early demise—he was only fifty—was greatly deplored by them.

F. PRIMROSE STEVENSON.

#### CORRESPONDENCE.

##### R.I.B.A. Council.

The Guildhall, E.C.: 24 October 1914.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—With reference to Mr. Lucas' letter in the JOURNAL of the 17th inst., I have already repudiated the quotation of Mr. Watson that the Edinburgh Association and the Hampshire Society are composed "mainly of people who had merely an interest in architecture." It is impossible to argue with men who do not deal with the words one uses but state they "imply" or "suggest" or "infer" or "insinuate" something; they place their own interpretation on the words used and disagree with that interpretation. Whether the bulk of the members of the Hampshire and Isle of Wight Society are, or are not, architects has very little interest for me. I dealt with the qualifications for membership as stated in our KALENDAR. I said members of that Society "are not necessarily architects." I stated that fact and quoted every word in the KALENDAR that deals with the subject; the other words quoted by Mr. Lucas refer to Architects and Hon. Members, and have nothing to do with the point I brought forward.

I consider the proposals of the late Council unjust, because if a By-law were passed to give effect to them it would provide the machinery for representation mentioned below, and render possible what, to my mind, would be an intolerable state of affairs, for I believe as a fundamental principle the Council of any institute should be composed of men representing in just proportion the different classes of persons directly connected with that institute, and I do not think the R.I.B.A. would sanction the following:—

(a) An Allied Society of only 50 members, only



one being a Fellow of the R.I.B.A., the other 49 being men outside our body, the Society contributing nothing to our funds—indeed it would cost us £1 1s. per annum. This Society to be entitled to one seat on our Council. But even if all the 50 men were our members, they should not have this enormous *extra* representation over their brother members (see *c*).

(b) The Institute invited architects to become Licentiates, it set up a test and enrolled over 2,000 men. According to our balance sheet in the JOURNAL of 9th May, their subscriptions amounted to no less than £2,097 18s. These men would be allowed no representation.

(c) In June last we had 1,705 Associates contributing an annual income of over £3,580 to our funds. In addition we received examination fees during the year amounting to £1,633 16s., almost entirely from Associates (see JOURNAL for exact details). Under the scheme the Associates were to have a representation of only 1 in 170. Estimating the increase in our Associates at 100 per annum, the representation next year would be 1 in 180, the following year 1 in 190 and so on. According to the scheme, the Allied Societies could increase indefinitely and their representatives accordingly, but the proportionate representation of our own Associates would decrease automatically as their numbers increased.

Surely even the Hon. Secretary of an Allied Society must see that such a scheme is illogical and "unjust," and I am sure we shall never pass a By-law to sanction it.

Now, just one word to Mr. A. F. Watson. He gave in inverted commas an actual quotation (see lines 5 and 6, first column, page 601 of the JOURNAL of 25th July, 1914). He attributed that quotation to me. I denied it in the JOURNAL of 29th August, and naturally expected the next appearance of Mr. Watson in print would have been as an apologist; consequently I was extremely surprised to see his letter in the JOURNAL of 17th October. He asks members to draw their own conclusions. No doubt they will.

Yours obediently,

SYDNEY PERKS.

P.S.—If Mr. Watson can verify his ridiculous quotation I will send £5 5s. to the Architects' Benevolent Fund.

#### Professional Classes War Relief : Maternity Nursing Home.

13 & 14 Prince's Gate, S.W. : 3rd November 1914.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—May I solicit the hospitality of your columns to make known the requirements of the Maternity Nursing Home which is being started by the Professional Classes War Relief Council ?

Mr. J. Pierpont Morgan has most generously lent us 13 and 14 Prince's Gate for the Nursing Home for the period of the war, and now we have to furnish it. Many people who are not in a position to give money may be able to give or lend some of the things that go

to the furnishing of a house, such as furniture of all sorts, house and table linen, blankets, cutlery, plate, screens; also bassinets and baby clothes.

Would those kindly offering help write first to Mrs. Hills, 32 Prince's Gardens, S.W., stating what they are prepared to give and what to lend? On acceptance of their offers they will be asked to send the articles direct to 13 Prince's Gate, S.W., clearly marked in the case of articles on loan. Crockery and glass we can only accept as a gift, as we cannot insure against breakage.

All furniture will be insured against fire.—Yours faithfully,

JULIET HILLS.

## THE EXAMINATIONS.

### New Scheme.

The following modifications in the scheme of Examinations will come into effect after July 1915 :—

#### PRELIMINARY EXAMINATION.

The Examination in the following subjects will be discontinued :—

1. Short English Composition.
2. Writing from Dictation.
3. Arithmetic, Algebra, and Elements of Plain Geometry.
4. Geography and History.
5. Latin, Italian, French, or German (one language only).

6. Elementary Mechanics and Physics ; but every candidate for registration as Probationer must satisfy the Board that he has attained a sufficient standard of general education.

The Examinations set out in the KALENDAR will be regarded as indicating the required standard.

Examination in Subject No. 6 (Geometrical or Perspective Drawing) and Subject No. 7 (Freehand Drawing) will be retained as at present.

The admission fee will be £2 2s. as at present, but relegated candidates will be required to pay a fee of £1 1s. for each subsequent attempt for all Examinations after that of June 1915.

#### INTERMEDIATE EXAMINATION.

The admission fee for Examinations subsequent to that of June 1915 will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

#### FINAL EXAMINATION.

The admission fee for Examinations subsequent to that of July 1915 will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

#### SPECIAL AND COLONIAL EXAMINATIONS.

The admission fee for Examinations subsequent to that of July 1915 will be £10 10s., and relegated

candidates will be required to pay a fee of £5 5s. for each subsequent attempt.

**Notice to Candidates who have joined the Colours.**

The Council of the R.I.B.A. wish it to be known that generally every consideration possible will be shown to candidates who have joined the Colours, and they will be conceded the following specific privileges:—

Candidates for the Intermediate Examination whose Testimonies of Study are approved to be registered as Students.

Candidates for the Final Examination who have had one or more Problems in Design approved may be exempted from submitting others.

**To Foreign Students in English Architectural Schools.**

The Council have decided to allow candidates other than British subjects, who are desirous of possessing evidence that they have obtained the status though not the rank of an Associate of the Royal Institute, to sit for the Final Examination, and in the event of their passing to furnish them with a certificate to that effect.

**The R.I.B.A. Prizes and Studentships 1915.**

At a meeting of the Council on Monday, 19th October 1914, it was resolved to postpone the Prizes and Studentships Competitions for 1915 until the year 1916. Further, that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the Prizes and Studentships Competitions for the year 1916.

## COMPETITIONS.

**Tuberculosis Hospital, Southend-on-Sea.**

Members and Licentiatees are advised that the conditions of the above competition are not in accordance with the Institute Regulations for Architectural Competitions, and the Competitions Committee are in correspondence with the promoters with a view to their amendment.

By order of the Council.

IAN MACALISTER, *Secretary.*

## MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1914-15, held Monday, 2nd November 1914, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 23 Fellows (including 10 members of the Council), 17 Associates (including 2 members of the Council), 5 Licentiatees, and a few visitors—the Minutes of the Meeting held 22nd June 1914, were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members since the last meeting in June, viz.: The Earl of Wemyss and March, *Hon. Associate*, elected 1878; Frederick Dare Clapham, elected *Associate* 1901, *Fellow* 1909; John Brooke, elected *Associate* 1881, *Fellow* 1908, served for two years on the Council of the Institute as representative of the Manchester Society of Architects; James Herbert Stones, *Fellow*, elected 1889; Arthur Charles Bulmer Booth, *Associate*,

elected 1881; James Lindsay, *Associate*, elected 1881; and William Bell, Godfrey Colles, Thomas Sinclair, William Cowley Stevenson, *Licentiatees*. Upon the motion of the Hon. Secretary it was resolved that the regrets of the Institute for the loss it had sustained by the decease of these members be entered on the Minutes of the Meeting and that a vote of condolence be passed to their near relatives.

The following gentlemen attending for the first time since their election were formally admitted by the President, viz.: Basil Charlton Deacon, *Fellow*; Harry Beckett Swift Gibbs, *Associate*; and Charles William Calcott, *Licentiate*.

The Secretary announced that the following candidates, being found eligible under the Charter and By-laws, had been nominated for election in the various classes: As FELLOWS (15): J. Stacey Davis [A. 1865], Plymouth; John Malcolm Dossor [A. 1896], Hull; Gilbert Wilson Fraser [A. 1897], Liverpool; Charles Matthew Ellison Hadfield [A. 1896], Sheffield; Charles Kempson, Assoc.M.Inst.C.E. [A. 1894], Leicester; Harold Clapham Lander [A. 1894]; Hurley Robinson [A. 1907], Birmingham; Cecil Alexander Sharp [A. 1895]; Austin Woodeson [A. 1906], Ceylon. Also the following Licentiatees, who have passed the Examination qualifying for candidature as Fellows: John Alexander Ogg Allan [*Godwin Bursar* 1909, *Inst. Medallist (Essays)* 1910], Aberdeen; Ernest Chawner Bewlay, Birmingham; Charles William Bowles; Stanford Morton Brooks; Martin Thomas Ernest Jackson; James Cumming Wynnes, Edinburgh. As ASSOCIATES (41): Richard Anderton, Preston; Richard Alfred Barber; Herbert Phillips Bryant, Southampton; Andrew Stuart Burnett, Southampton; George Wilfred Callender; Charles Henry Calvert, Nottingham; Walter Llewellyn Clark; Harold Thoresby Cooksey; Colin Addison Dickeson, New Zealand; Edward Harold Montague Ebbs; Joseph Charles Fowell; William Hubert Godwin, Bewdley; Douglas Morley Griffin, Liverpool; William Holgate Harrison, Whalley; Frank Hearne, Oldham; James Hembrow; Ernest James Hickman, Birmingham; Percy Howard, Manchester; Basil Hughes, P.A.S.I.; William John Isaac, York; Eric Rawlstone Jarrett; Bernard Jessop, Nottingham; Albert Frederick Kaltenbach; Frederick Lawrence Kruckenberg, Leeds; Godfrey Horton Ledger; William Leonard Boghurst Leech; Ebenezer James Macrae, *Licentiate*, Edinburgh; Stanley Russell Miller; Abdulla Bhanji Peermahomed; Thomas Luff Perkins, Assoc.M.Inst.C.E., Hong Kong; Richard Manning Haig Philp; Geoffrey William Ridley, East Grinstead; Cedric Gurney Ripley, Ipswich; Horace Edwin Rolley; Arnold Silcock, Bath; Charles Ernest Stafford, Derby; Gerald Stanley, Trowbridge; Herbert Samuel Taylor; Gilbert George Lee Tyte; Harold Gerard Waddington, Blackpool; Arthur Jackson Wood, Leicester. As HON. ASSOCIATE: Sir Laurence Gomme, J.P., F.S.A.

The President, having briefly addressed the meeting, moved the following Resolution: "That messages be transmitted to the Governments of France and Belgium expressing on behalf of the members of the Royal Institute of British Architects their profound sympathy with the peoples of those countries in the terrible losses which they have suffered by the destruction of so many of their most famous and beautiful buildings and monuments."

The resolution, having been seconded by Mr. Reginald Blomfield, was carried unanimously.

The proceedings then closed, and the Meeting separated at 8.30 p.m.

## Books received.

The English Parish Church. An Account of the Chief Building Types and of their Materials during Nine Centuries. By J. Charles Cox, LL.D., F.S.A. 8s. Lond. 1914. [B. T. Batsford, Ltd., 94 High Holborn.]  
Ye Sundial Booke. By T. Geoffrey W. Henslow, M.A. La. 8s. Lond. 1914. 10s. 6d. net. [Edward Arnold.]  
Bruges: A Record and an Impression. By Mary Stratton. Illustrated by Charles Wade. 8s. Lond. 1914. 5s. net. [B. T. Batsford, Ltd., 94 High Holborn.]  
The Architecture of Humanism: A Study in the History of Taste. By Geoffrey Scott. 8s. Lond. 1914. 7s. 6d. net. [Constable & Co., Ltd.]



MAIN ENTRANCE TO THE MUSEUM OF THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES. (McKim, Mead & White, Architects.)

## AMERICAN MUSEUM BUILDINGS: A REPLY TO MR. BREWER.

By FREDERIC A. LUCAS, Director of the American Museum of Natural History.

THE Editor has kindly allowed me to discuss some points raised by Mr. Brewer in his paper on American Museums,\* and as it has fallen to me to administer two of the institutions of which he speaks, while I am fairly well acquainted with others, it may be that I see them in a somewhat different light from Mr. Brewer. I trust I may be able to show that our shortcomings are not so great as he thinks, and that there are reasons for them other than he supposes; certainly some of his criticisms are made with an imperfect knowledge of the facts. Furthermore, Mr. Brewer's criticisms are almost wholly from the viewpoint of an artist and architect, not from that of the curator of a natural history museum. And, viewing matters from a different standpoint from him, I cannot help feeling that some of our sins of omission and commission are more largely due to the architect than he is willing to admit. I regret the liberal but

unavoidable use of the first person in this paper, but, unfortunately, many of Mr. Brewer's criticisms were aimed at things for which it might seem to many that I was responsible.

It is flattering to find that Mr. Brewer was disappointed because Americans had failed to revolutionise the character of museum buildings, but some of the reasons for this failure have been pointed out by Mr. Brewer himself, while other reasons lie far below the surface and are probably appreciated only by those whose acquaintance with museums is of long standing.

Not only are architects a somewhat conservative race, but experiments on a large scale in new types of building are costly, and an architect may well hesitate before involving himself and his clients in a failure the cost of which may run into hundreds of thousands of pounds. Then, too, there are building committees and boards of trustees to be dealt with,

\* JOURNAL R.I.B.A., 10 Apr. 1913.

and these, as a rule, feel that "'tis better to endure the evils we have than fly to others that we know not of." And, judging by some experiments that have been tried and serve as examples to be shunned rather than followed, it is just as well that architects *are* conservative.

Many of the matters of which Mr. Brewer complains are due to the effort to put new wine into old bottles, to adapt the needs of to-day to the plans of forty years ago, and, as the old bottles sometimes burst, so the old plans prove defective. For it is to be borne in mind that what one may term the Museum movement dates only from the late 'sixties, and that at this period, when the British Museum and the American Museum of Natural History were designed, there was nothing in Europe to serve as a model; in many, or most, instances collections were housed in existing buildings modified for their new purposes. Since then such changes have taken place in the aims and objects of museums and in the character of their collections that buildings designed twenty-five years or more ago are utterly inadequate for present needs and their occupants are striving desperately to adapt them to their new uses. As many of our recent museums, both large and small, are based, if not on old plans, at least on old conceptions of museums, these too prove as unsatisfactory as their prototypes.

Probably few museums have been studied so much as the American Museum of Natural History and the United States National Museum, and many of their features have been embodied in other institutions. The plan of the Brooklyn Museum, for example, is largely a modification of that of the old United States National Museum, and while this latter building is of the "car barn" type of architecture and extremely ugly inside and out, the problems of having all exhibits on one floor and all halls well lighted have never been more successfully solved. It was also for a museum of its day (1876) and ideas a success so far as offices and study rooms were concerned, and was an excellent solution of the demand made by Congress of obtaining the most room for the least money.

Chief among the changes referred to is the great increase in the reserve, or study collections. Formerly, if a museum possessed, for example, a dozen birds of a given species, it was deemed ample; now large series are demanded from various parts of the region inhabited by that species, so that it is a conservative statement to say that a hundred specimens are now wanted where one was called for a comparatively few years ago. Not only is there a demand for more specimens, but the number of known species has increased. In 1885 only 363 species of land mammals had been recorded from North America, by 1900 the number had grown to 1,450, and in the succeeding two years no fewer than 300 additional forms were described.

Turning to fossil vertebrates, it is to be noted that whereas formerly only such specimens were collected as could be readily handled and carried in a wagon,

nowadays entire skeletons, with their including rock, are gathered, and from ten to twenty-five tons of material is an ordinary shipment of one collector for a season's work.

Coincident with this has come the need of room not only for the display but for the storage, preparation, and study of this wealth of material, with the result that institutions like the British Museum and the American Museum of Natural History, designed in the late 'sixties, find the original lines on which they were planned quite insufficient for present needs. The new United States National Museum is the one large institution that has been constructed recently enough to have availed itself of dearly bought knowledge, and this is, so far as I am aware, the foremost museum building in the world as regards offices, laboratories, and storerooms.

As with study collections, so with the exhibition series—all has changed. The original idea of museums was preservation, display being incidental, and at first most mistakenly considered as a mode of preservation. Hence exhibition was originally confined to single specimens arrayed in serried ranks wherein quantity, rather than quality, was considered. Now the exhibits of an up-to-date museum—so far as animals are concerned—consist largely of groups of animals shown amid their natural surroundings. The number of specimens displayed is much smaller than of yore, but they require vastly more space and entirely different conditions of display.

Now, right here is where we museum men feel—*pace* Mr. Brewer—that the architect has not kept up with the times. It is, or should be, the profession of the architect to design buildings adapted to the purposes for which they are to be used, to familiarise himself with the needs of those buildings and adapt his methods of heating and lighting to them, to plan the building from the inside rather than from the outside. Here Messrs. Smith and Brewer have the pleasing consciousness of having done their duty, but too often the appearance of the edifice is considered first.

Trustees naturally rely upon the architect, and he is too prone to consider the museum man as a cranky individual whose ideas if carried out would injure the appearance of his building. The Curator calls for all the wall space that is to be had, asking that the windows be high and the radiators or other heating apparatus removed from the walls. The architect protests that these things cannot be done without ruining the appearance of his building; the trustees and building committee accept the architect's dictum, and the Curator gets the blame. As an illustration of this I would point, with apologies to Mr. Rathbun, to the United States National Museum, agreeing with Mr. Brewer that the exhibition halls of the new United States National Museum are distinctly bad; the windows being entirely too low and too large—twice as large as necessary—while the radiators take up most valuable space. Further, the fact that there



are no boundaries to the halls is most unfortunate and unpleasant.

Since Mr. Brewer complains so much of over-lighting, let me say here that during my first year at the Brooklyn Museum I caused all the windows in the south front to be sandblasted, and that during my first year in the American Museum of Natural History I had a sandblast apparatus purchased and have begun the work of converting the windows into frosted glass. It may be added that I have not yet persuaded our building committee to have the windows on the street side of the proposed new wing of ground glass, as they are fearful lest this injure the appearance of the building.

Still another feature of modern museum methods that calls for space is the fact that it has become generally recognised that the construction of cases and pedestals, alterations to the building, and similar mechanical work can be carried on much more economically, efficiently, and, above all, more conveniently by museum employees than by outside workmen. All this, to say nothing of a printing office, demands room for men, machinery and material. The carpenter's shop alone of the American Museum of Natural History is 40 feet by 130 feet and contains nine large pieces of machinery, while so young an institution as the Brooklyn Museum finds itself cramped in a room 35 feet by 100 feet. Here, the space assigned for workrooms in the National Museum of Wales would be considered too small for a museum of that size. Also, it falls in the portion of the building that will be erected last. In this connection it may be remarked that the most extraordinary shortcoming of the Brooklyn Museum, the failure to provide for its occupancy and use during erection, Mr. Brewer has failed to notice. There is in the south front, over 500 feet long, no provision for temporary offices and workrooms, and this oversight of the building committee and the architects the Director had to meet as best he could and in the face of some opposition. This accounts for the presence of an elaborate hard pine fish-tail floor in the carpenter's shop.

So much for general considerations. Turning to details, I would first suggest that Mr. Brewer, like many another critic, views his subject from the outside and often fails to realise that it is not a question of doing as one would like, but doing as one can under existing conditions.

Failure to use the main entrance to the Brooklyn Museum is partly due to humanitarian considerations and partly to the fact that as an entrance it is practically unusable. The question of exhibition space has nothing whatever to do with it. To reach the main doorway involves a climb of forty-six steps, a task so laborious that the trustees humanely decided, save on special occasions, to use the basement entrance which opens on the first platform at the top of twenty-three steps. But this is not all: the main door opens, not into a vestibule, but into an exhibition hall, 90 feet by 90 feet, running up two

stories, the effect being similar to that found in a certain class of small tenement common in the United States where the front door opens directly into the parlour. In the case of the Museum, not only is there no vestibule, and the doorway faces the north, with consequent draughts, but there is no provision for receiving the visitor, no checking booth, no telephone, no attendants' room, and the nearest office is 200 feet away, down a flight of stairs! To put up structures for these various purposes would be to give to this hall the appearance of the concourse of a railway station. Small wonder that those immediately concerned should be willing to sacrifice dignity to comfort and utility, keeping the main entrance for appearances and the basement side entrance for use, save on days when the attendance is large.

Precisely similar reasons account for the non-use of the present main entrance of the American Museum of Natural History. And it seems to me—not being of the brotherhood of architects—that in this, as in the preceding instance, the architects are at fault and that they should have carefully considered the needs of an entrance before its appearance. As an architectural feature the entrance to the Brooklyn Museum with its approach, which was the last large work designed by Stanford White, is a success, and it is to be regretted that Mr. Brewer chose to reproduce the architect's drawing instead of the façade as it actually exists. Here, by the way, the Science Director was successful in having the space below the steps, originally designed to be filled with earth, utilised for a storeroom 90 feet by 90 feet.

In the case of the American Museum of Natural History, fortunately it will be possible at some time in the dim future to remedy the existing order of things and to provide entrances on the east and west that will combine beauty with utility. The present architects, Messrs. Trowbridge & Livingston, to whom the criticisms of this article do not apply, are most heartily in accord with the Museum officers, and, though badly handicapped by what is already constructed, have designed additions that are in every way vast improvements over existing conditions. Incidentally it may be noted here that since the visit of Mr. Brewer the basement vestibule and foyer have, under the supervision of these architects, been greatly improved, the lighting completely changed, and the disfiguring astronomical exhibit, which bore an unfortunate resemblance to the cash conveyers of a department store, removed, all of which adds greatly to the dignity of Memorial Hall—as the Foyer is termed. The busts, by the way, are not those of founders, but of "Pioneers of American Science."

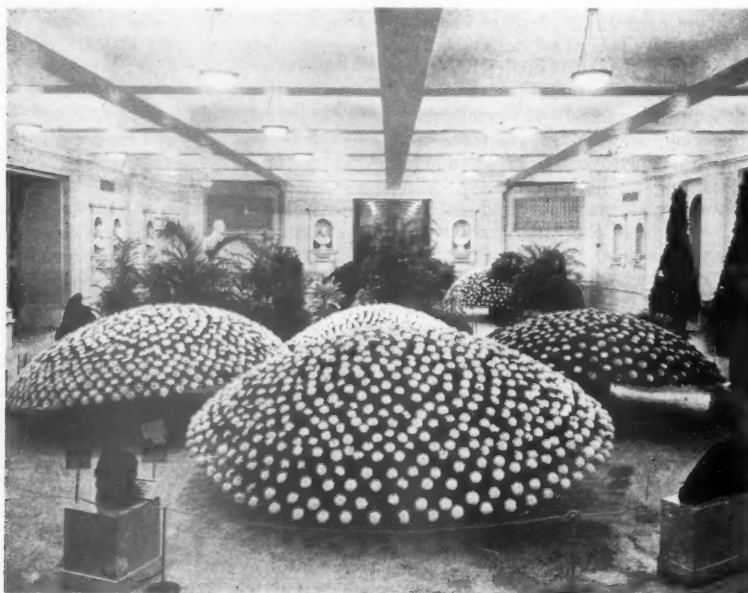
A word or two as to the size of museums, more especially as to the size of the exhibition portion. Here it would probably be difficult, if not impossible, to get an agreement between museum directors and between directors, visitors, and trustees. Then, too, much depends on the purposes of the museum. Mr.

Brewer and Dr. Hoyle seem to think the American Museum as it is provides a sufficiency of exhibition room, a conclusion from which everyone here, including myself, would most emphatically dissent, even though from my personal standpoint I feel that the present exhibits are in many cases too large, particularly in ethnology, conchology, and mineralogy. Here it is very evident that neither Mr. Brewer nor Dr. Hoyle has had to deal with Curators, who, be they never so pleasant, may differ very decidedly from the Director, and largely because they are courteous—and one does not like to be disagreeable in the family circle—carry out schemes of installation

collections of all kinds under one roof, or at least in one locality. It is confusing and inconvenient to be obliged to go to one place for ethnology, another for geology, and still another for zoology.† The visitor is not obliged to visit the entire museum at one time, and, as a matter of fact, rarely does so.

What the writer does look forward to is the establishment of small branch museums, like branch libraries, under one administration, for exhibits only, with the study collections all in one place.

When it is a question of having one large building or a number of smaller structures, when we are called upon to decide whether we would prefer to travel



FOYER, MEMORIAL HALL, OF THE AMERICAN MUSEUM OF NATURAL HISTORY, showing the brilliant but soft illumination. Taken during the Flower Show.

that may seem to the Director, as well as to the visitor, distinctly bad.\* Neither do they seem to consider that it is a question of dealing with existing conditions of long standing.

It is a distinct advantage to the public to have

\* The Director has the option of making himself cordially disliked by his colleagues, and possibly Trustees, or of endorsing many things of which he does not approve. Here is a concrete example of the difficulties that may beset a Director: I find on exhibition at least three times as many shells as I personally think should be displayed, largely installed in what I consider the very worst cases that could possibly be devised for the purpose. To reinstall this collection as I think should be done would involve the rejection of something like £1,500 worth of cases and the construction of £1,500 worth of new cases. It is not an easy matter to get money, and I should be pleased to learn what, under the circumstances, my critics would do. Will the City Fathers say, "Certainly, throw away the cases you don't like and get others that you do"? Am I sure that my own ideas are better than those of my predecessor, and what will be the views of my successor?

In the Modern Principles of Museum Administration it is written, "The Director has no rights, but he is allowed certain privileges, and the Curators will see that these are not abused."

two miles in one museum or an additional two miles in going from one institution to another with the attendant loss of time, when the comparative cost of erecting and administering one building or three is taken into consideration, the verdict is overwhelmingly in favour of the single large institution.

Not to be too personal in my remarks, are not Mr. Brewer and Dr. Hoyle influenced by the fact that they are mentally contrasting the National Museum of Wales, a museum of limited purposes, in a small city, with a museum world-wide in its scope, within half-an-hour's ride of 5,000,000 people? For example, on the plans of the National Museum of Wales I see room for but one whale, unless a second is placed in the geological hall; the rooms for history

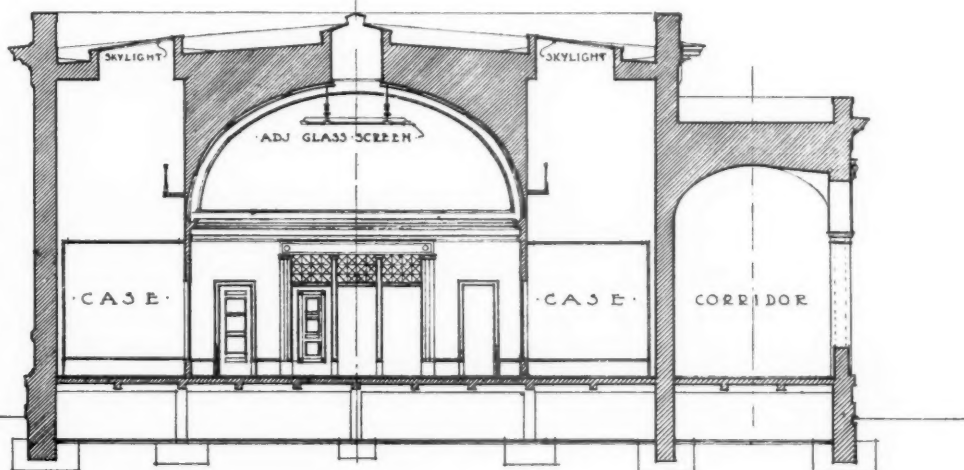
† The transference of the Museum of Practical Geology from Jernyn Street to the British Museum is a good illustration of the policy of concentration.

and antiquities are large enough for Wales, but entirely too small for the ethnography of North America, to say nothing of other parts of the world. And what about the exhibition of dinosaurs, cunning little creatures occupying as much floor space as a small cottage? The display of these is not necessary in Cardiff, but every visitor to American museums of any repute expects to see them; and in the American Museum of Natural History two halls will practically be devoted to them. Judging from experience in America, the workshops are not allowed half enough space, the doorway leading into the halls of sculpture and of zoology is too narrow, and the stackroom is

facts, and a hall from 50 to 60 feet in width, with windows from 8 to 12 feet above the floor, permits cases to be arranged in two series of alcoves with space for groups or large objects down the centre of the hall. Windows well above the floor allow the wall space under them to be used for cases, while with ground glass there are no bad effects from cross lighting, and the cases on either side are illuminated. Side lighting may be ideal, but, since the window side cannot be used, calls for exactly twice the linear space of a cross-lit hall. If architects *will* carry the windows below the tops of the cases, and particularly if there is clear glass in these windows, they at least

· CALIFORNIA · ACADEMY · OF · SCIENCES ·

· SAN · FRANCISCO · CALIFORNIA ·



· TYPICAL SECTION THRO ·  
· MAIN · EXHIBITION · ROOM ·

· LEWIS · P · HOBART · ARCHITECT ·  
· SAN · FRANCISCO · CALIF ·

· SCALE · 

inadequate. As a slight matter of detail, the printing room is placed just as far as possible from the Director's office, when it should be near by. As there is no engine room on the plan, it would seem that the Museum will depend on outside service for light and power, so that this need not be considered.

Turning from the question of museum buildings to that of the size of exhibition halls, it should be said that much depends on what class of specimens is to be displayed in that hall: whether they are objects of art or of natural history. While 30 to 35 feet may be sufficient for an art gallery, it is utterly inadequate for a gallery of natural history, as I had ample opportunity to learn during eight years at Brooklyn.

Natural history calls for a certain amount of system, a necessary sequence in the presentation of

should not cast reflections, or complain of those that are cast.

I am inclined to agree with Dr. W. D. Matthew in believing that the museum of the future will rely entirely upon artificial illumination, and that the gain in wall space, owing to the abolition of windows, will pay for the cost of operating the lighting plant.

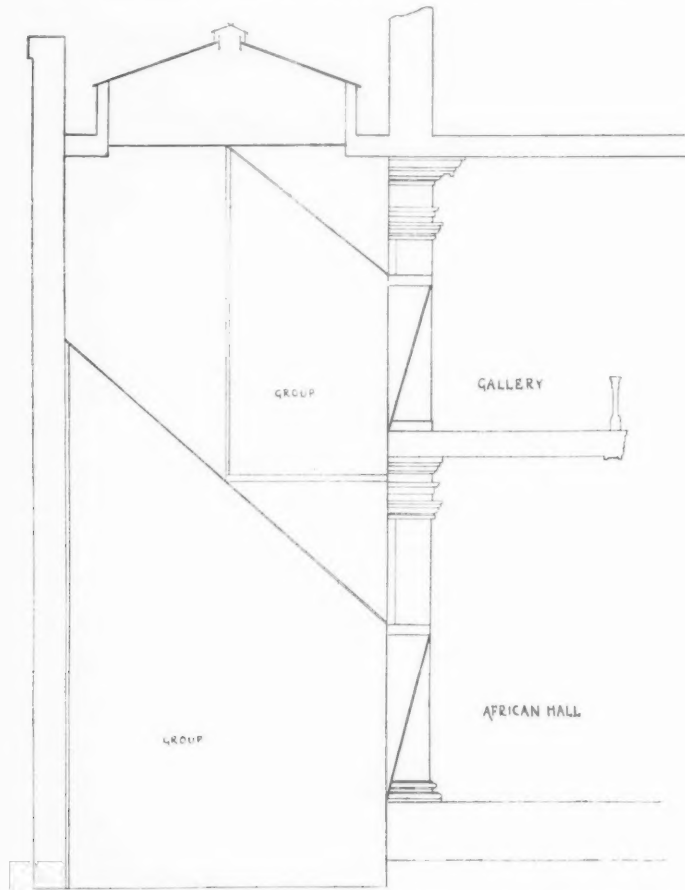
The plans for the natural history gallery of the National Museum of Wales are admirable, but they contemplate using only one side of the hall, and I know from actual trial that a hall 35 feet by 110 feet is entirely too small to contain a comparatively small representation of vertebrates, and a hall 50 feet by 50 feet too small for the display of the zoology of so limited an area as Long Island, New York.

In regard to the Carnegie Institute, Pittsburgh,

has not Mr. Brewer been a little severe in his strictures and not given due consideration to the conditions under which it was constructed, or rather reconstructed? Originally built for a library and concert hall, the Museum was included as an afterthought. A few years of use showed that the building was entirely too small for its varied purposes, and it was

Institute, despite its architectural and æsthetic drawbacks, most convenient and useful. The man who consults the library can drop into the science museum; the young man who, with "his best girl," is going to attend a concert can pay a visit to the picture gallery.

Mr. Brewer expresses surprise that the arrangement and lighting of the bird groups in the American Museum of Natural History have not been adopted elsewhere, or in other departments of the Museum. The reply to this is that, in the first place, it is not always practicable to adopt this plan of lighting, and, in the second place, that it has been more carefully considered and more frequently adopted than he imagines. This mode of display necessitates that the observer be in a darkened hall—a condition that cannot always be met. The other alternative is to build a special room, as has been done in the American Museum of Natural History, for the groups of reptiles and deep-sea fishes, though our friends the architects will doubtless criticise us for so doing, since it destroys the original plan of this hall. The problem has been under consideration for at least fifteen years, and some of the plans have been carried into effect, while others will be in museums now under consideration or construction. When the plans for the Field Museum of Natural History were begun in 1897 Mr. Carl E. Akeley planned, among other halls, one for the display of groups of North American mammals, lighted after the general method of the bird groups in the American Museum of Natural History. While this was abandoned in the plan finally adopted, Mr. Akeley's ideas have been taken up by others, while somewhat similar plans have been independently



CROSS SECTION THROUGH PROPOSED AFRICAN HALL OF THE AMERICAN MUSEUM OF NATURAL HISTORY, AS PLANNED BY MR. AKELEY.

vastly increased in size, the original plans being swept aside.

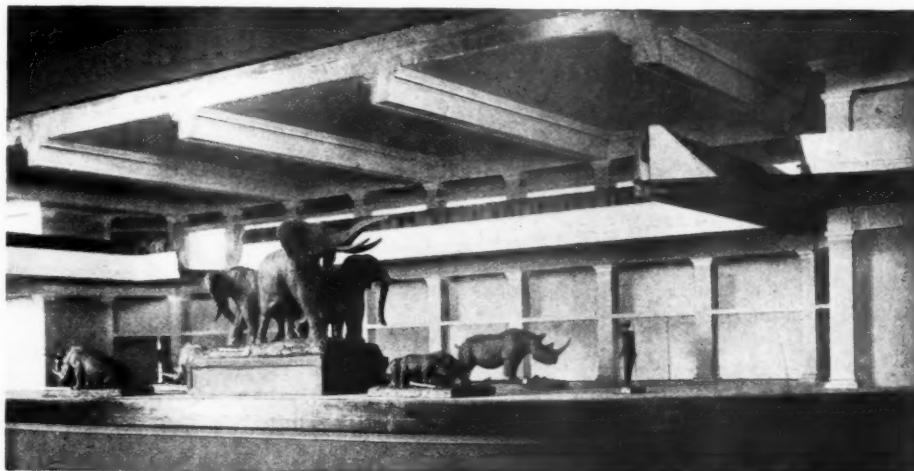
No doubt for some reasons it would be better to have separate buildings for the various branches of science and art comprised in this department store of culture, but, as just noted, the cost of land alone for these separate buildings would be enormous, and the cost of their separate administration equally enormous. And as we find department stores most convenient for public use, and most economical in their administration, so the public finds the Carnegie

evolved and carried out in institutions out of the beaten path.

At the present writing, plans for the Museum of the California Academy of Sciences are under consideration which include a large hall, with surrounding gallery, for groups of mammals, the hall itself to be dark and the groups illuminated from above. By the courtesy of the architect, Lewis P. Hobart, who has kindly sent me detailed drawings, I am able to show a cross section of the main hall.

In the recent addition to the Public Museum of

Milwaukee large groups of mammals, illuminated by concealed electric lights, are shown on either side of a side of this are arranged the remainder of the mammal collection illuminated by side light from the windows.



GENERAL VIEW OF THE PROPOSED AFRICAN HALL, AMERICAN MUSEUM OF NATURAL HISTORY.  
From the Model by Carl E. Akeley.



A CORNER OF THE PROPOSED AFRICAN HALL, AMERICAN MUSEUM OF NATURAL HISTORY, showing the arrangement of the groups and bas-reliefs. The group in the corner extends thorough the gallery to the ceiling.  
From the Model by Carl E. Akeley.

corridor down the centre of the hall. This closed corridor, whose walls reach to the ceiling, occupies a little more than one-third the width of the hall, and on each

This arrangement, which is that planned for the oceanographic hall of the American Museum of Natural History, seems to the writer the best possible,



utilising a wide hall to the greatest advantage and showing the specimens and groups under the most favourable conditions of light. Unfortunately, as just noted, it is not always possible to adopt this method; still less is it possible to adapt an old hall to these conditions on account of the great cost of so doing, since it would be necessary to discard all the cases and replace them with new. But for this, the writer would make over the Hall of North American Mammals; as it is, he can only congratulate his friend Mr. Ward upon the successful accomplishment of this mode of installation.

Of still greater interest to the writer is the proposed Hall of African Mammals for the American Museum of Natural History, plans for which are being prepared by Mr. Akeley in conjunction with Messrs. Trowbridge and Livingston. As designed by Mr. Akeley and shown in the cross section and in the scale model, the plan contemplates a hall about 80 feet by 120 feet, around which are shown groups of the large mammals of Africa, while the smaller animals are displayed around the gallery above. Wherever desirable, as in the large corner spaces, the groups will extend from the main floor to the ceiling.

The spaces between the top of the lower glass and the floor of the gallery will be utilised for scenes in high relief depicting the natives and their various occupations. These, of course, will have their own illumination by concealed lights around their edges. Unfortunately, art is long and life short, and while the writer hopes to see the execution of this magnificent and comprehensive plan, he does not expect to, though there is little doubt that ultimately it will be carried into effect.

Mr. Brewer's criticisms of the installation of the Goodyear photographs and the Sargent water-colours at Brooklyn certainly rankle in my breast, because they are made in utter ignorance of the facts in the case, and cast implications on the "Science Director" that the latter feels are wholly undeserved. Both installations were made by the Curator of Fine Arts with the approval of the Committee on Art Museum, and with the knowledge that they were temporary. The photographs illustrating Professor Goodyear's researches in the field of architectural refinement represent the work of years and the expenditure of many thousand dollars. They had never been seen together, save in Edinburgh, having been hung, for want of space in the Museum, on the stairways, and never all displayed at once. It was eminently desirable to show them in a body, together with the plans and elevations of the buildings from which they were taken, and grouped to show the various points illustrated. The effect, when so hung, was excellent from every point of view and afforded an opportunity to students for study and comparison that they had not

had before nor have had since. To say that they could have been better studied on screens in a "study room" is equivalent to saying that one could get a better idea of St. Paul's by looking at the individual stones than by seeing the building as a whole. Besides, there was no "study room."

The Sargent water-colours, purchased after the Goodyear photographs had been installed, were on a brilliantly, not badly, lighted staircase landing, because there was no other place for them. As Mr. Brewer points out, room might have been provided by dividing a long gallery into alcoves; but the Trustees for years turned a deaf ear to the pleas of the "Science Director" and Curator of Fine Arts that this be done, though recently the plan has been carried into effect with excellent results. Moreover, the room where the water-colours were hung has been made over, as was intended, into an admirable little hall with a background taken from that in use by the same "Science Director" at the American Museum of Natural History.

On one point at least Mr. Brewer and myself agree, and that is on the use and abuse of mouldings. Having gone from the Brooklyn Museum, which had a superabundance of heavy mouldings, to the American Museum, which has absolutely none, I can say most heartily "A plague on both your houses"—the results are equally bad, not merely from a decorative but from a practical standpoint. In the American Museum we cannot repair a ceiling without having to paint the entire space between girders from wall to wall; we cannot change the colour of a hall without special treatment of the doorways at either end; and we cannot repair or paint about a window—where repairs are most frequent—without considering the entire hall, for there is no place to stop.

It may be said that in the addition to the Brooklyn Museum, now being built, the mouldings will be simplified and low, while in the prospective addition to the American Museum of Natural History, planned by Messrs. Trowbridge and Livingston, the ceilings will be panelled and the doorways and windows will have mouldings.

There are various other matters of which I should like to speak were space available, but enough has been said, I think, to show that, like all other problems, those of museum construction, installation, and administration are by no means so simple as they appear at first sight. The Director who desires to lead a peaceful life must be prepared to take disappointments philosophically, to see his own plans come to naught while helping others to the fruition of theirs, must expect to be criticised on the one hand for what he does, and on the other for what he does not do. He would best adopt for his motto the advice of Æneas: "Remember in arduous affairs to preserve an equable mind."

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